

similarity and homogeneity.

Part II, the applied section, opens with practical considerations in the design of simple, series, parallel and branched pipeline systems and distribution, pumping and surge protection requirements for them. Then weirs, flumes, spillways, energy dissipators, control gates, lateral discharge structures and outlets are all covered as examples of hydraulic structures. Section optimisation and the design of unlined channels of canals and rivers follows. The final chapter is on coastal engineering, in which observations of the behaviour of waves on beaches, littoral drift and bays forms a backdrop to the design of sea walls, groynes, beach replenishment schemes and permeable breakwaters. A pertinent problems list, which should find favour with students and harassed lecturers alike, joins appendices on the matrix approach to dimensional analysis, relevant computer programs and moments of area and a comprehensive index to close the book.

If criticism were to be forthcoming, it would be on the final chapter—there is no mention of cheap-and-cheerful coastal protection methods, such as gabion walls, which the impoverished client/engineer will frequently require in the UK, and more so in the developing world; hydraulic design criteria relating to marine sewage disposal (currents, long sea outfalls and so on) are not covered, nor are a few other prominent practical problems. That said, the same chapter compensates by explaining clearly the difference between sea defence and coast protection, with its implications for project funding from clients with different responsibilities for each of these apparently similar schemes: a useful introduction for the novice engineer.

In conclusion, I should perhaps draw attention to the authors' postscript (an unusual feature) to this valuable addition to the extensive hydraulics literature. It says concisely what engineering is all about and reminds me of my own tutor's summary, he now being a much-revered professor: "An engineer can build for a shilling what any fool can build for a pound"—and while that draws attention to my age, it is still true in modern hydraulic engineering and this book, which would certainly be a good choice if one were restricted to one good text, will help to keep it that way. Good value for money for students, lecturers and professionals alike.

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**Estuarine and Coastal Pollution: Detection, Research and Control**, Proceedings of the IAWPRC/NERC Conference, Plymouth, July 1985. Issued as *Water Science and Technology 1986*, Volume 18, Parts 4 and 5. Oxford: Pergamon Press, 364p. £59.00 (\$95.00), ISBN 0-08-033669-8.

This book is a collection of papers and poster abstracts presented at the IAWPRC/NERC Conference on "Estuarine and Coastal Pollution", with the aim of updating and reviewing the topic. By and large, the organisers and editors have succeeded in their aim, as the selection of papers contained in the volume is certainly wide-ranging, both from a scientific and from a geographical viewpoint. The scientific subjects discussed include metal chemistry, biochemical toxicology, population ecology and hydrodynamic modelling, and there are in addition a selection of case histories and summaries of various international projects. It is clearly impossible to cover the whole of this field in any depth, but there is sufficient range in the volume to have something of interest for everyone in this field.

The selection does, however, point out the gulf that exists between scientists and managers: the scientific contributions include a number of position papers on metal chemistry and behaviour while the modelling (and the management to a certain extent) papers still tend to emphasise the traditional BOD approach, and metal pollution models are still in their infancy. Also in this respect, perhaps it would have been useful to have had a little more, especially from the research side, on microbial and viral pollution, which is currently one of the sources of anxiety, especially in the public perception, in this area.

This volume is certainly one to be recommended, although possibly more for library or institute than individual purchase. The price puts it out of reach of most students, but those whose interests are well-catered for in the book will find it of great benefit. Finally, as the committee themselves pointed out, the more contact between the various interests in estuarine and coastal pollution, whether the contact is at such a conference or through reading a volume like this, the better will be the understanding of the different problems faced and hopefully the better the solutions.